CLAIMS

We claim:

1.   A method of decoding a bitstream encoded via a plurality of encoders, the bitstream arranged in portions, the method comprising:

identifying the portions within the bitstream; and

routing the identified portions to one of a plurality of decoders based on a portion model associated with each identified portion.

2.   The method of claim 1, wherein each portion model is assigned from a plurality of predetermined models.

3.   The method of claim 2, wherein if a content of a portion does not match a predetermined model, then the portion is assigned a generic model.

4.   The method of claim 3, wherein each decoder of the plurality of decoders is optimized for one of the predetermined models.

5.   The method of claim 4, wherein the plurality of decoders further comprises a generic decoder.

6.   The method of claim 5, wherein routing the identified portions to one of a plurality of decoders based on a portion model associated with each identified portion further comprises routing the identified portions to the generic decoder if the identified portions have the generic model.

7.   A method of decoding a bitstream divided into portions, each portion being encoded by an encoder of a plurality of encoders, the encoder being chosen based on a profile of each segment, the method comprising:

receiving the bitstream at an input switch;

routing each bitstream portion from the input switch to a decoder of a plurality of decoders based on the portion model;

7   decoding each bitstream portion based on which encoder encoded that portion

8 of the bitstream; and

9   outputting each decoded bitstream portion.

1 8.   The method of decoding a bistream divided into segment of claim 7, further

2 comprising:

3   receiving an output from each of the plurality of decoders at an output switch;

4 and

5   outputting a decoded bitstream from the output switch.

1 9.   The method of claim 8, wherein the portion model is chosen from the group of

2 models consisting of action, slow, opposing glances, scene detail, establishing shot,

3 camera handling, animation mixture, and light changes.

1 10.   The method of claim 9, wherein the portion model further comprises

2 information associated with a source format, scene concepts, properties of the scene,

3 camera operations and special effects.

1 11.   A method of decoding a bitstream divided into segments, each segment being

2 encoded by one encoder of a plurality of encoders, the one encoder being chosen based

3 on a profile of each segment and the plurality of encoders including a generic encoder,

4 the method comprising:

5   receiving the bitstream at an input switch;

6   routing each bitstream segment from the input switch to one decoder of a

7 plurality of decoders based on the segment profile, each decoder of the plurality of

8 decoders being associated with one of a plurality of profiles and the plurality of decoders

9 including a generic decoder;

10   routing the bitstream segment to the generic decoder if the bitstream segment

11 does not have a profile; and

12   decoding each bitstream segment using one decoder of the plurality of decoders,

13   wherein each segment having a profile is decoded via a decoder associated with that

14   profile, and wherein a segment not having an associated profile is decoded using the

15   generic decoder.

1   12.   A method of encoding and decoding video content, the method using a plurality

2   of encoders each associated with one of a plurality of content models and including a

3   generic encoder associated with a generic content model, the method further uses a

4   plurality of decoders each associated with one of the plurality of content models and

5   including a generic decoder associated with the generic content model, the method

6   comprising:

7   extracting a portion from the video content;

8   mapping the portion to associate a model from the plurality of models;

9   if a model is mapped to the portion:

10   encoding the portion using an encoder associated with the

11   portion model;

12   if a model is not mapped to the model:

13   encoding the portion using the generic encoder;

14   transmitting the portion to a switch;

15   if a model is mapped to the portion:

16   routing the portion via the switch to a decoder associated with the

17   portion model; and

18   if a model is not mapped to the portion:

19   routing the portion via the switch to the generic decoder.

1   13.   The method of encoding and decoding video content of claim 12, further

2   comprising:

3   connecting an output from each decoder of the plurality of decoders to a second

4   switch; and

5   receiving output from each decoder of the plurality of decoders to assemble the

6   decoded segments for display.

1   14.   A method of decoding a bitstream, the bitstream divided into a plurality of

2   portions including description portions and video content portions, each video content

3   portion having an associated model which is either a generic model or a predetermined

4   model from a plurality of models related to the video content, the method comprising:

5   determining whether each portion is a description portion or a video content

6   portion;

7   if a portion is determined to be a description portion:

8   decoding the description portion using a first decoder; and

9   if a portion is determined to be a video content portion:

10   determining whether the associated model of the video content portion is

11 the generic model or one of the predetermined models from the plurality of models; and

12   if the associated model is a generic model:

13   decoding the portion using a generic decoder; and

14   if the associated model is one of the predetermined models:

15   decoding the portion using a decoder chosen from a plurality of

16 decoders, each decoder of the plurality of decoders being associated with one of the

17 predetermined models from the plurality of models.

1   15.   The method of decoding a bitstream of claim 14, further comprising:

2   using decoded descriptions from the description portions to determine whether

3   the associated model of the video content portion is the general model or one of the

4   predetermined models from the plurality of models.

1   16.   The method of claim 15, wherein a portion of the bitstream is a segment.

1 17. The method of claim 15, wherein a portion of the bitstream is a subsegment.

1 18. The method of claim 15, wherein a portion of the bitstream is a region of

2 interest.

1 19. A method of decoding a bitstream, the bitstream being divided into a plurality of

2 video content segments, each video content segment having an associated model which

3 is either a generic model or a predetermined model from a plurality of models related to

4 the video content, the method comprising:

5   determining whether the associated model of each video content segment is the

6 generic model or one of the predetermined models from the plurality of models; and

7   if the associated model is a generic model:

8   decoding the segment using a generic decoder; and

9   if the associated model is one of the predetermined models:

10   decoding the segment using a decoder chosen from a plurality of

11 decoders, each decoder of the plurality of decoders being associated with one of the

12 predetermined models from the plurality of models.

1 20. The method of decoding a bitstream of claim 19, wherein the predetermined

2 models relate to concepts of a segment, properties of a segment, camera operation in a

3 segment or special effects in a segment.

1 21. A decoded bitstream, decoded according to the method of claim 1.

1 22. A decoded bitstream, decoded according to the method of claim 7.

1 23. A decoded bitstream, decoded according to the method of claim 11.

1 24. A decoded bitstream, decoded according to the method of claim 12.

1 25. A decoded bitstream, decoded according to the method of claim 14.

1   26.   A decoded bitstream, decoded according to the method of claim 19.